

December 8, 2000

MEMORANDUM THRU ANDREW ATHY, CHAIR
SECRETARY OF ENERGY ADVISORY BOARD

TO BILL RICHARDSON
SECRETARY OF ENERGY

FROM ERNEST MONIZ
DEPARTMENTAL CO-CHAIR
LABORATORY OPERATIONS BOARD

JOHN MCTAGUE
EXTERNAL CO-CHAIR
LABORATORY OPERATIONS BOARD

SUBJECT: Transmittal of White Paper on Performance-Based Management prepared by
External Members of Laboratory Operations Board

The Laboratory Operations Board completed the attached White Paper on Performance-Based Management and approved it for release at their 21st meeting yesterday, December 7, 2000. We are submitting it to you for review by the Secretary of Energy Advisory Board and request that if approved you forward it to the Secretary of Energy.

As you are aware, the External Members of the Laboratory Operations Board have been guided consistently by the principle that the management focus of the Department must be on output rather than process. It is their hope that the paper will be provided to the members of the Department's transition team and passed to the next administration.

Attachment (1)

WHITE PAPER

**PERFORMANCE-BASED MANAGEMENT
AT THE
DEPARTMENT OF ENERGY**

Prepared by

External Members of the Laboratory Operations Board

December 7, 2000

The American people annually invest about \$19 billion in Department of Energy programs. This investment supports programs in four mission areas: National Security, Science, Energy Resources, and Environmental Quality. The Department of Energy (DOE) is the largest single government agency that sponsors science and technology investments in these areas. It does not, however, operate without constraints, such as a minimum number of directives. But if authority is well defined, and aligned with accountability, and consultation is a way of life, these constraints should be relatively few and relatively robust to changing conditions.

To accomplish its missions in these four mission areas, the Department utilizes the capabilities of providers from industry, universities, and specialized laboratories. Most of the laboratories are government owned but contractor operated. In past decades, the Department's performance management of its programs focused heavily on conformance to DOE directives on procedures.

However, during the last decade the Department's management style has shifted towards the industrial norm of emphasizing outcomes and encouraging innovation by adopting best practices to suit special circumstances rather than adhering to uniform, centrally imposed rules. This approach, common today in most industries, is known as performance-based management. Performance-based management is a key ingredient in much of the recent economic success in U.S. industry.

Performance-based management at this level represents an integrated management system that involves all DOE/contractor organizational levels into a system focusing on results. By using tools such as peer reviews to evaluate the quality of science and benchmarking business practices against best industry standards, incentives have been established to drive long-term performance improvement.

This report assesses the Department's current status of implementing performance-based management, as well as the benefits so far realized. It also makes recommendations for future progress.

1. Issue

How can DOE fully and consistently implement PBM at all organizational levels?

2. Background

➤ What is Performance-Based Management?

Within a performance-based management system, all levels of the Department work together to define requirements, establish desired results, and agree on management methods for measuring and evaluating performance, including the assignment of accountability for achieving it. This system creates a results-oriented approach focused on program/mission performance. The system drives long-term performance improvements.

➤ How does Performance-Based Management fit into National objectives?

In the early 1990s, with growing concern over efficiency of the federal bureaucracy, the federal government's overall effectiveness and performance were openly challenged. The Administration and Congress both responded with broad new programs: The National Performance Review initiated an effort to "re-engineer" governmental operations; and the Congress, with legislation like the Government Performance and Results Act, focused on performance enhancement. Together these initiatives have challenged federal agencies to become more performance oriented and cost effective by implementing "performance-based" management concepts from industry.

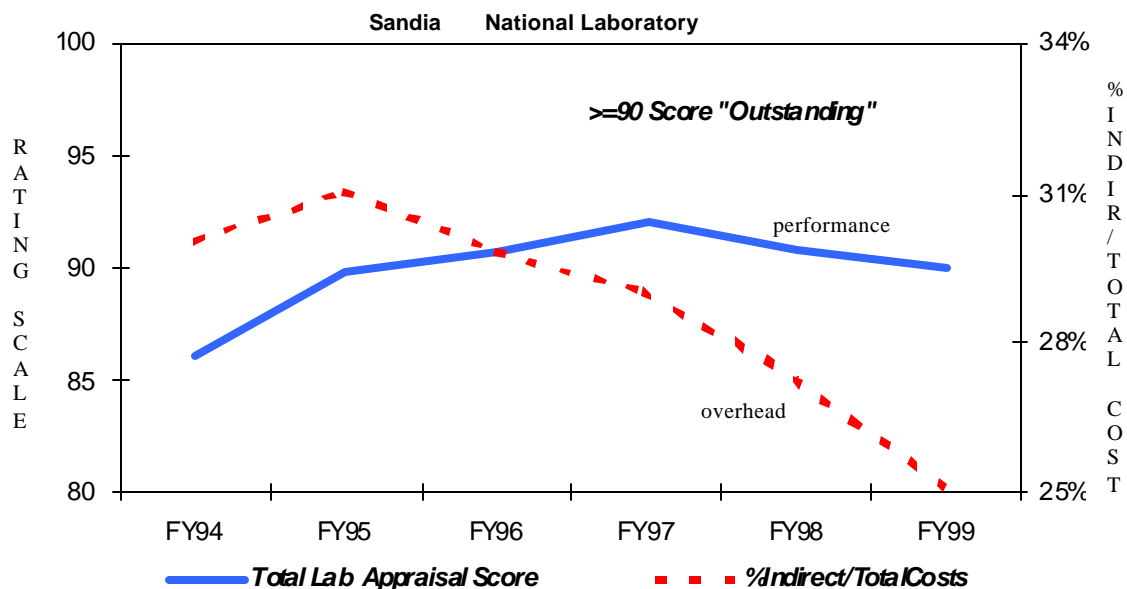
As part of the shift to greater accountability for results, the President and the heads of major agencies, including DOE, have signed performance agreements as required under the Government Performance and Results Act. For DOE, this performance agreement document establishes at the corporate level key objectives and requirements.

➤ DOE Strategies and Initiatives

In the mid-1990s, DOE responded aggressively to the Administration's challenge. Working closely with its contractors, the DOE has put in place plans, policies and programs to reduce bureaucracy, cut cost, and establish results oriented performance-based management systems.

Since 1992, DOE has made significant progress. DOE's vision has been translated into strategic and tactical plans. These plans have driven numerous agency-wide initiatives that are redefining and re-engineering agency and contractor managerial and operational systems and establishing more effective management oversight and accountability. The DOE is achieving positive results with the establishment of performance-based systems that focus on results and outcomes. Results are achieved not only in terms of higher quality mission and technical performance but also in terms of more cost-effective operational support.

The chart shown below from Sandia National Laboratory summarizes a trend we have seen at several of our laboratories. The DOE grades for performance, which include scientific and operational areas, have improved. And operational efficiency, i.e., the cost of operations including overheads, has decreased as a percentage of total laboratory budgets. (It should be noted that at several DOE laboratories we are beginning to see a reversal of the trend of decreasing overhead costs, due to new DOE initiatives, such as cybersecurity and Integrated Safety Management.) The net effect of this has been to make more dollars available for direct DOE mission work.



Key DOE initiatives included Contract Reform, Business Management Oversight Program (BMOP), and Procurement/Property reforms:

- Contract Reform has changed the way the Department does business with its prime contractors. Key elements include use of performance measures and criteria, greater financial accountability, and cost reduction.
- Business Management Oversight Program

Another DOE management initiative involved fundamental changes to the Department's Business Management Oversight. Led by the Deputy Secretary, the new process improved the DOE/contractor management partnership, improved DOE operations awareness, and provided for a consolidated annual review that eliminated hundreds of redundant and poorly structured reviews. Collectively, this resulted in greatly reduced costs and more effective results-oriented management oversight.

- Procurement and Property Management

Under the leadership of Richard Hopf, Director, Procurement and Assistance Management, DOE Headquarters, a team of Headquarters, Field and Laboratory personnel were assembled to design an effective performance-based management implementation approach for the Procurement and Property Management functions. They modeled their approach on the "balanced scorecard" (this method evaluates all major organizational responsibilities in a comprehensive and balanced manner). This results-oriented approach established a framework, overall objectives, and core areas to be measured while providing the field and contractor organizations the broad flexibility to develop appropriate site-specific measures. This model has been well received and has produced positive results.

➤ **Performance-Based Management Policy**

This policy statement, dated April 20, 2000, and signed by the Deputy Secretary established four major guiding principles for implementing performance-based management at DOE:

- Performance objectives established in partnership with affected organizations and linked to DOE strategic goals.
- Resource decisions and budget requests tied to results.
- Primary reliance on self-assessments with “for cause” reviews as needed.
- Results used for management information, establishing accountability, and driving long-term improvements

These principles provide the structure and general process for DOE’s performance-based management system and additionally recognize the need for flexibility and mechanisms to ensure effective stewardship of public funds.

➤ **DOE Use of Merit Reviews**

DOE and its contractors have successfully utilized merit/peer reviews to evaluate the research and development mission performance. In March 1999, a Laboratory Operations Board report to DOE concluded the following:

Merit review with peer evaluation is a powerful and effective tool for enhancing relevance and productivity in Federal research and development (R&D). Despite some of its well-documented shortcomings, peer review stimulates competition, establishes high standards for quality, rewards productivity, and on balance, fosters creativity and promotes fair play. When combined with energetic and visionary R&D program leadership, peer review can marshal highly competent R&D teams, focus scarce resources on the most important and potentially fruitful technical opportunities, and provide reasonable assurances to taxpayers that their Federal R&D dollars are being prudently invested.ⁱ

3. Benefits

Most DOE labs and M&O contractors have contracts that incorporate performance-based management principles. With the principles of focusing on results, benchmarking against industry standards and partnership, positive results have been realized in organizations throughout DOE.

At the DOE labs, the overall results are impressive: significant mission performance benefits have been realized by improving overall operational effectiveness.

The actual results of each DOE lab performance improvement story have been documented by a National Laboratory Improvement Council initiative.ⁱⁱ The major improvement trends that occurred at the DOE labs are as follows:

- 1) Enhanced Science and Technology performance.
- 2) Better alignment with DOE strategic plan(s).
- 3) Greater share of laboratory funding to mission support (reduced overheads!).
- 4) Ability to identify areas requiring improvement.
- 5) Partnership and cooperation for improved performance.

Key examples of specific performance improvements are included in Attachment A.

The record shows that performance-based management encourages innovation and drives long-term performance improvement. With performance-based management, the Department can benefit from the ability to drive long-term performance improvements, maintain an effective capability to respond to unique situations, and establish appropriate accountability. Performance-based management also allows the incorporation of “Best Practices” from private industry by encouraging benchmarking of performance standards. Finally, performance-based management promotes partnership and trust, which encourages innovation and creativity at all organizational levels.

However, while DOE and the labs have realized tremendous benefits from these initiatives, we must also recognize that no management system can identify all requirements on potential issues – “surprises” will occasionally arise and difficult issues will occur. The good news is that DOE’s performance-based management policies provide for special management reviews and actions to be undertaken when unanticipated events or circumstances occur. We must continue to support performance-based management methods and not revert back to less effective compliance and audit style approaches.

4. Status of Performance-Based Management today at DOE

While substantial progress has been made with performance-based management and other DOE management initiatives, there is no comprehensive corporate approach to implementation and as a result policies and methods are not consistently implemented DOE-wide.

DOE needs to embrace performance-based management as its management system and work to establish it at all organizational levels. Leadership for performance-based management must be provided and roles and responsibilities need to be clarified and accountability within DOE for implementation must be meaningful.

5. The Path Forward

The new DOE senior management team needs to endorse and commit to continuing performance-based management as DOE's management system, including:

- Senior management leadership of an ongoing performance-based management institutionalization and improvement process in DOE.
- Provide an integrated (both vertically from DOE senior management down through the field and to the contractors as well as horizontally across the various offices within DOE), corporate approach to the institutionalization of performance-based management by establishing a high-level manager as the performance-based management “Champion” and chair of a cross-cutting steering committee to establish key principles and oversee implementation. Clarify and strengthen DOE senior management roles and responsibilities associated with performance-based management, including continued support of the Headquarter’s alignment role of Lead Program Secretarial Office, Field Management Council, Research and Development (R&D) Council and efforts to integrate programs and operations decisions.
- Further incorporate and implement performance-based management principles and methods into the Field Management Council management process, including policy formulation and decision-making in integrating program and operations policies and missions.

6. Other Areas Deserving Attention:

- Clarify the relationship between performance-based management and the Government Performance and Results Act. Identify how performance-based management at DOE has effectively implemented Government Performance and Results Act provisions.

—Identify how to better use organizational and individual incentives to encourage accomplishment of strategic results as opposed to a mere conformance to rules.

—Enhance the relationship of performance-based management to Roadmaps. Technology roadmaps help define the level of maturity of science and technology that will be needed in the near-, mid-, and long-term (e.g., 1-2, approximately 5, and approximately 10 years in the future) to meet the projected needs of the business lines.

—Define the role of peer and expert assessment of the Department's performance towards achieving desired mission outcomes. (Is a performance outcome assessment of mission goals performed? Is it derived as the sum of the performance of individual contractors? Is a credible assessment by external experts of how the Department is progressing in its mission activities conducted? For example, is an assessment of how the Office of Science is accomplishing its goals, including its use of and coordination of the efforts of its laboratory, industry, and university performers, conducted?) A results-oriented assessment of the Department should not be just the sum of the performance of individual contractors. It must become an assessment of the accomplishment of mission and scientific objectives at the strategic agency level.

7. Prospective Recommendation:

There are effective means in place to get independent expert evaluation of the performance of the DOE national laboratories. The Department should explore similar means to get independent expert evaluation of the Department's overall performance towards its broad mission goals in Science. This might also be done for each of the other major missions: National Security, Environmental Management and Energy Resources. The appropriate scope should be decided by the new administration. A possible home for such reviews could be subcommittees of the Secretary of Energy Advisory Board, among other options.

Bottom line:

**Keep developing Performance-Based Management as DOE's management system—
it's adding value!**

NOTES

ⁱ Laboratory Operations Board, *The Department of Energy's Use of Merit Reviews: Report of the External members of the Laboratory Operations Board*, Appendix D, March 17, 1999, p. 57.

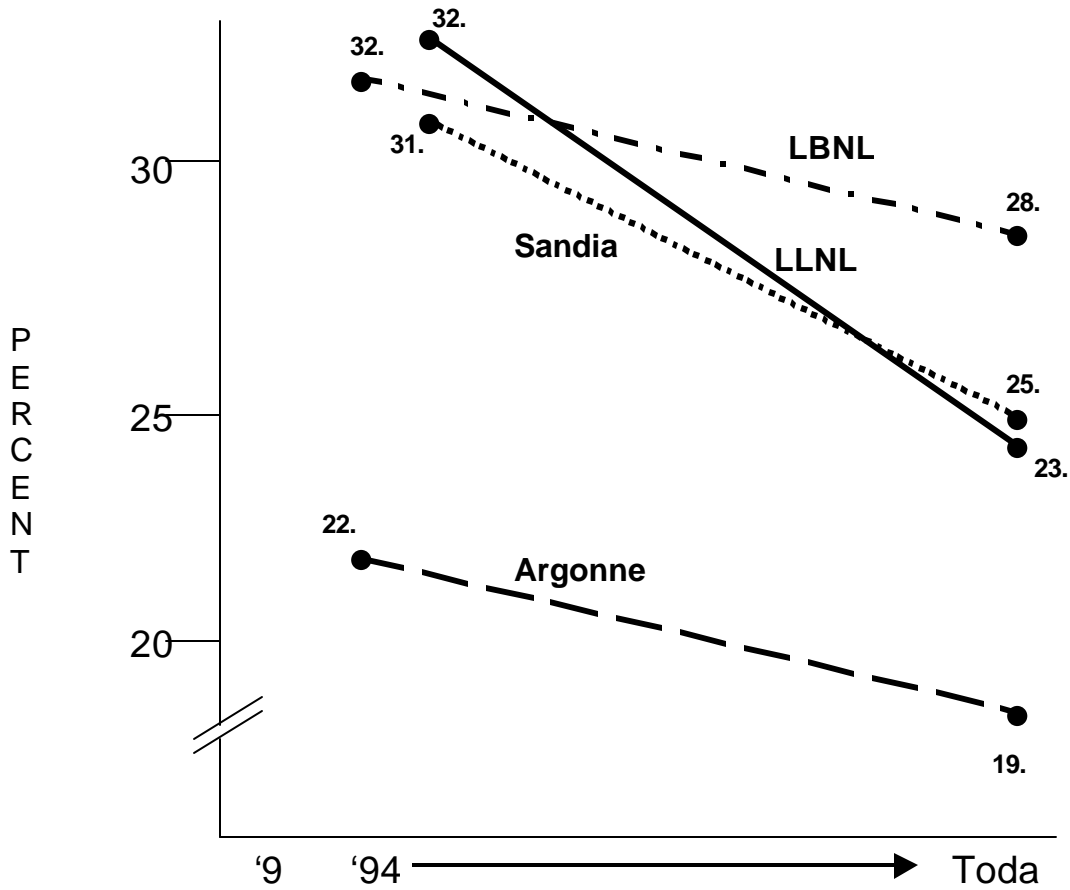
ⁱⁱ Each DOE laboratory has written a Performance Improvement Story. These stories are available on the DOE's National Laboratory Improvement Council Home Page at <http://labs.ucop.edu/internet/nlic/>. Also available is an Executive Summary that highlights the major improvement trends.

APPENDIX A

Examples of Performance Improvements at the Department of Energy's National Laboratories

1. Indirect/Overhead Costs as a Percent of Total Lab Operating Costs
2. Examples of Procurement Productivity Gains
3. Examples of Safety Performance Improvements at the DOE Laboratories

Indirect/Overhead Costs as a Percent of Total Lab Operating Costs

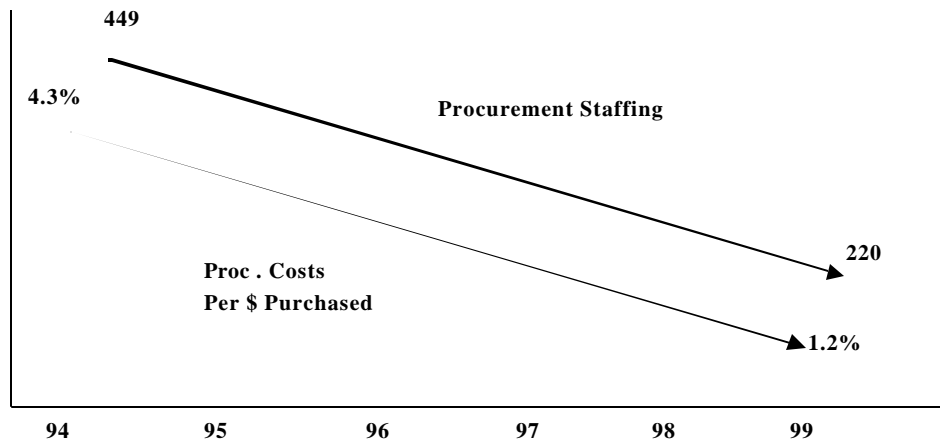


Result—Shifts more funding and resources to direct mission work

Examples of Procurement Productivity Gains

Automated procurement systems and use of “best business methods” such as Procurement Purchase cards have significantly reduced procurement labor and Related procurement costs.

LLNL Procurement Reductions



National Renewable Energy Laboratory

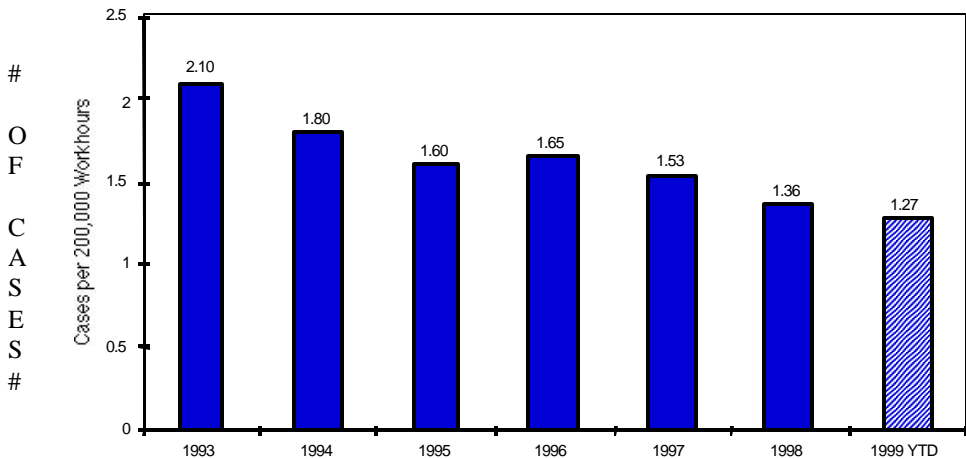
Performance Trends: Purchasing Cards

	FY 95		FY 99	
	<u>Purchasing cards</u>	<u>Purchase Orders</u>	<u>Purchasing cards</u>	<u>Purchase Orders</u>
Number of Transactions	0	9000	13,868	1567
Average Dollars/ Transaction	0	\$3300	473	\$13,300
Total Dollar Transaction	0	\$30.0M	\$6.6M	\$8.5M
FTE	0	22	0.5	3.5

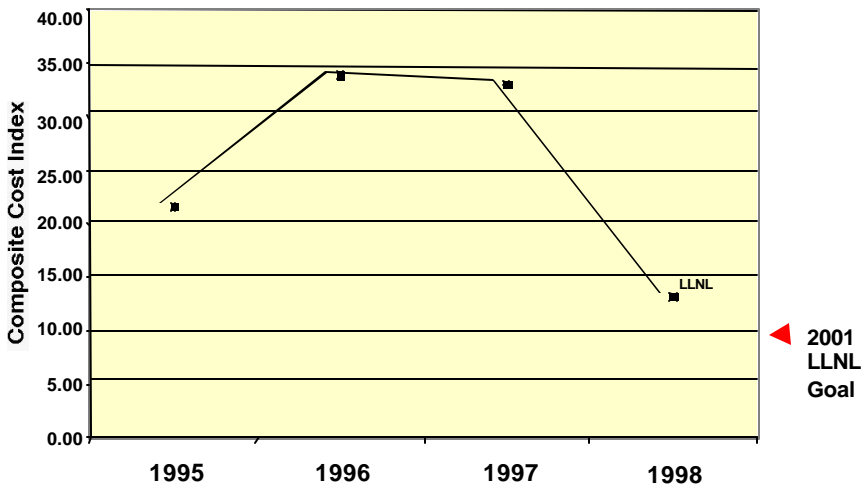
Purchasing Labor went from 22 to 4 FTE!

Examples of Safety Performance Improvements at the DOE Laboratories

Sandia National Laboratory



**LLNL
DOE Research Contractor
Safety Composite Cost Index**



Pacific Northwest National Laboratory

